User Manual and Installation Manual

Xpelair®

Redring Xpelair Group

MURO XHRM

Home ventilation Unit With Heat Recovery

E

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INSTALLATION MANUAL page 11

RATING LABEL

Typ		S/V	
S/N		FD	

Date start-up

USER MANUAL For the user

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1 Important notes

In this user manual, especially important notes are marked as WARNING! or NOTE!

WARNING!

Warnings against hazards and errors that can cause injuries or can have serious consequences for the product.

NOTE!

Useful notes and additional information.

This user manual and installation manual forms part of the ventilation unit and must be kept readily available at all times. It must be handed to any engineers carrying out work on the unit for attention and must be handed over to the new user when moving home.

1.1 Intended use

This ventilation unit is intended exclusively for the supply and exhaust ventilation of domestic rooms. It must be used in dry and frost-free interior rooms only.
Any other use and any use exceeding the intended use is not permitted. Any improper use can damage the unit.
The unit must not be altered or modified. The unit is guaranteed safe to use in accordance with the intended use. In this respect, the corresponding user manual and installation manual as well as any other product-specific documents must be observed.

1.2 Safety instructions

Failure to observe the safety instructions can cause hazards to the user as well as to the unit andwill lead to loss of any right to claim damages.

1.2.1 Installation

The ventilation unit must be carefully installed by a qualified technician in accordance with the installation manual and in compliance with all instructions and regulations for accident prevention.
The ventilation unit must be installed in a dry, frost-free environment with good access and sufficient space for carrying out any necessary maintenance or repair work. Proper discharge of condensate must be ensured in order to avoid any electrical hazards and any damage to the building structure. The ventilation unit must not be installed in places where corrosive or inflammable gases as well as fatty or adhesive aerosols can enter the unit or where air containing harmful pollutants can affect people or put people at risk. Any applicable fire regulations must be observed and complied with. Connecting cooker hoods to the ventilation unit is not permitted.
Electrical connections must be installed by a qualified technician in compliance with all safety rules for electrical equipment and with all applicable standards and local regulations as well as in accordance with the installation manual. Before starting any work on the unit, the unit must be disconnected from the power supply.
Supply cables must be installed in a way as to avoid any mechanical loads on cable connections inside the unit and to prevent electrical lines from loosening at connecting terminals. Furthermore, the installer must ensure that cables are not pinched or damaged by housing or maintenance covers.
Any improper or incorrect installation can cause severe hazards, e.g. severe accidents or fires. Any setting-up and programming not described in the user manual can affect safety and must only be carried out by a qualified technician.

1.2.2 Open Flue installations

Using the ventilation unit together with fuel burning devices (e.g. fireplaces, tiled stoves, gas stoves) is subject to further special requirements. It must be ensured that the ventilation unit cannot cause low pressure in the ventilated room or area during operation of the open flue device. Any applicable national as well as regional guidelines and regulations must be observed.

1.2.3 Start-up, use, interruption

After completed installation, a functional test must be made to ensure that the unit works correctly. The user must read the user manual carefully in order to acquaint himself/herself with the procedures for use and maintenance.
The ventilation unit contains rotating fans. Putting your hands or fingers or any other objects into the unit, into air ducts or into air-intake or air-outlet elements can lead to injuries and can damage the unit. **It must be ensured that children and people with limited physical or mental capabilities are not put at risk.**
In case of defects, faults or abnormal conditions (e.g. flooding of the unit due to a natural disaster) the unit must be stopped. Disconnect the unit from the power supply and consult a qualified technician.

1.2.4 Maintenance, repair, spare parts

In order to ensure continuous safe operation, the ventilation unit must be maintained regularly. Any maintenance and repair work other than cleaning or changing filters must be carried out by a qualified technician. Before opening the unit, ensure that all associated circuits are isolated and are secured against unintentional switching-on. Use only original spare parts from the manufacturer.

1.2.5 Alterations and modifications

Any unauthorised alteration or modification of the unit or of the installed system as a whole is not permitted. Structural changes can impact the safety of use consult a qualified technician.

2 Device description

2.1 Purpose

The ventilation unit is designed for the controlled supply and exhaust offrost-free living spaces. It is installed in an outer wall. The ventilation unit is not meant for drying out building construction.

2.2 Structure

The following figure shows the basic structure of the ventilation unit.

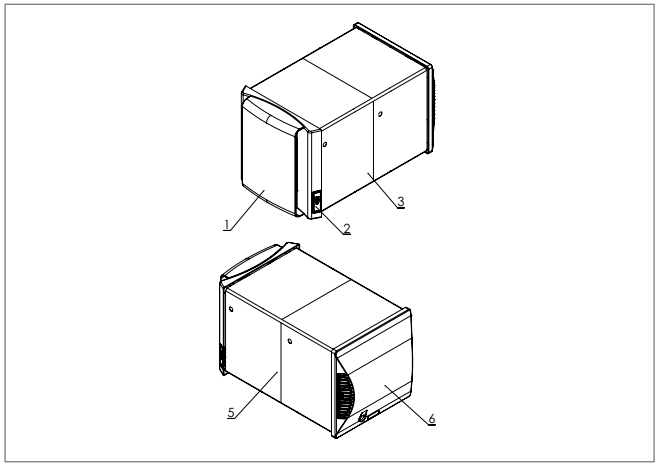

Fig. 2.1 Components of the ventilation unit

1 inner wall faceplate with filter	5 ventilation unit (in the wall sleeve)
2 control with display	6 outer wall faceplate with condensate drain
3 wall sleeve, square	

2.3 Mode of operation

The ventilation unit is equipped with two energy-saving and quiet-running fans with DC technology and ensures that the air in living spaces is exchanged in a controlled manner

Used room air is exhaust air and is conducted out as outgoing air. At the same time, fresh outdoor air is brought into the room filtered as incoming/supply air

The two air flows, separated from each other in the ventilation unit, are conducted via a cross counterflow heat exchanger. This recovers the heat contained in the exhaust air and heats the supply air. This way, most of the heat energy in the room is retained. Fresh outdoor air is supplied into the room.

2.4 Requirements at the installation site

The ventilation unit is installed in an outer wall. The room air temperature should not fall below+10°C. Suitable installation sites are outer walls in all living rooms and bedrooms, as well as kitchens, bathrooms, utility rooms and storage rooms.

Sufficient free space must be provided for air circulation and maintenance work. Distance to the walls or object
must be at least 10 cm (distance to curtains, furniture, etc.). There must be at least 50 cm of free space in front of the unit (more, if possible, to allow for an unobstructed air flow).

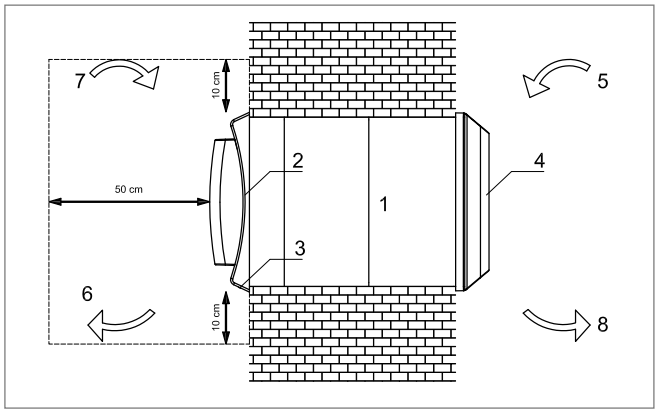

Fig. 2.2 Air flows and minimum distances (top view)

1 ventilation unit	5 outside air
2 inner wall faceplate with filter	6 supply (incoming) air
3 control with display	7 exhaust air
4 outer wall faceplate	8 outgoing air

WARNING!
Free access to the ventilation unit and to the breaker disconnecting it from the power supply must be ensured at all times.

NOTE!
Air inlet and outlet openings and air transfer openings must not be obstructed, covered or closed so that an unhindered airflow is ensured. Settings made by the qualified technician must not be changed.

WARNING!
Alterations made to the unit or to the installed system as a whole as well as structural alterations can affect safety; consult a qualified technician

2.5 CE mark

The home ventilation unit is designed and built in accordance with the relevant European standards and directives and thus meets the basic health and safety requirements. This is documented by the EC Declaration of Conformity and by the CE mark attached to the unit. For installation and use, any additional, applicable national laws, regulations and guidelines must be observed.

3 Control

The ventilation can be controlled without any additional control devices directly at the control panel on the unit.

WARNING!
The ventilation unit must not be used if it is visibly damaged. Disconnect the unit from the power supply and notify your installer.

3.1 Display and control panel

There is a control panel with an illuminated segment display.

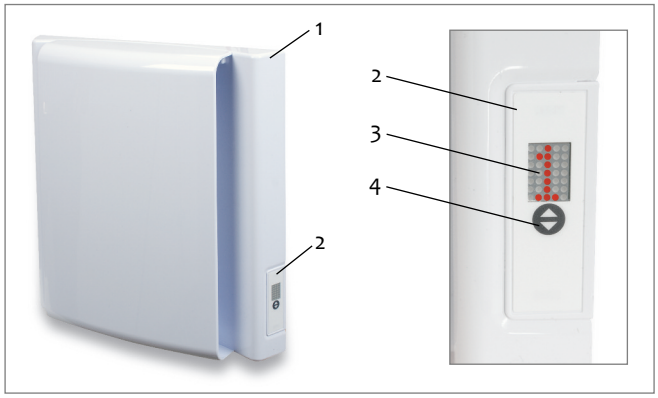

Fig. 3.1 Display and control panel

1 inner wall faceplate	3 segment display
2 display and control panel	4 operating key

3.2 Operating modes

Display	Operatingmode	Application
0	OFF*	Device should always be in operation to protect the structure!
A	AUTOMATIC**	Minimal operation for moisture pro tection (without air-quality sensor 10 m³/h. With optional air-quality sensor*** infinitely variable air volume control)
1	SPEED 1	Reduced ventilation 15 m³/h (e.g.atnight)
2	SPEED2	Nominal ventilation 30m³/h (normal operation when people are present)
3	SPEED 3	Nominal ventilation 45m³/h (normal operation when people present)
4	SPEED 4	Intensive ventilation 55 m³/h
←|	SUPPLY AIR**	Supply air mode 30 m³/h, no heat recovery (e.g. utilisation of cool night air)
→|	EXHAUST AIR**	Exhaust air mode 30 m³/h, no heat recovery (e.g. bathroom extract)

Table 3.1 Operating modes
* OFF can be disabled to provide continuous ventilation

The display provides information about the current operating status of the ventilation unit. The operating mode is set with the control button. Each time it is pressed, the operating mode changes in the shown sequence.

3.2.1 Automatic mode

In automatic mode, the ventilation unit works at 10 m³/h. With the addition of an air quality sensor, the flow is regulated infinitely between 10 and 45 m³/h, depending on the exhaust air quality of measuring CO2, humidity and mixed gases.
The fan speeds are only increased as much as and for as long as necessary when there is a need for increased ventilation. When the ventilation requirement is low, the fans run at the lowest speeds, possibly below speed 1, thereby consuming less energy. With th addition of an air quality sensor, the flow is regulated infinitely.

3.2.2 Supply air mode

Supply air mode is used to supply cool outdoor air (e.g. during cool summer nights). Heat recovery is deactivated.

3.2.3 Exhaust air mode

Exhaust air mode can be used to ventilate living spaces and bathrooms.

ATTENTION WARNING
The simultaneous operation of the ventilation unit with fuel burning devices (e.g. fireplaces, chimneys, tiled stoves, gas furnaces) is subject to special requirements. Make sure that when the fireplace/heating system is in operation in the ventilated area residence that no negative pressure is generated by the ventilation unit.

3.3 Switching on again after power failure

After a power failure, the ventilation unit automatically starts in speed 1 (reduced ventilation).

3.4 Switching Off the display

If the illuminated display of the ventilation unit is disturbing (e.g. in the bedroom), it can be switched OFF and changed to an on-demand display. The display will just go ON briefly (10 s) when the operating mode is changed and then it goes OFF again

To switch OFF the display - On-demand display -	Press the operating key for 10 s (S appears on display)
To switch ON the display: - Constant display -	Press the operating key for 10 s (S appears on display)

NOTE!
Filter and error messages are displayed even if screen is deactivated.

3.5 Filter signal

The filter signal gives a filter maintenance reminder by displaying 'F' after the interval time has elapsed (see "Maintenance"). The interval time is 6 months.
Reset: After filter maintenance, the signal is acknowledged and reset by pressing the operating key for 5 s.

NOTE!
In the event of a power failure or if the ventilation unit is switched off, the filter time is not stopped/reset.

3.6 Wireless operating switch (option)

The ventilation unit can be operated with one or more wireless operating switches.

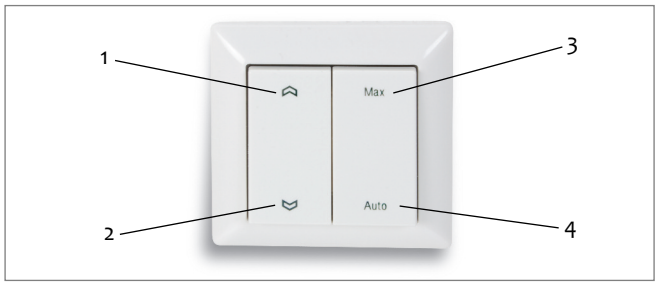

Fig. 3.2 Wireless operating switch

1 ▲ button
(0, auto, 1, 2, 3, 4, intake>extract*)
(extract* >intake, 4, 3, 2, 1, auto, 0)
2 ▼ button
(extract>intake*)
* depends on the device configuration, possibly not present
3 Max button
(55 m³/h for 15 min, then return to last operating mode)
4 Auto button
(without air quality sensor 10 m³/h, with air-quality sensor infinitely variable volume flow control)

With the ▲ and ▼ buttons, the available operating modes (upward and downward) are set.

The "***Auto***" button switches the unit to minimal operation. If the unit contains an air-quality sensor (option), the volume flow is automatically infinitely variably regulated, depending on the room air quality.

The "***Max***" button switches the device to maximum operation for 15 minutes. Afterwards, the previously set operating mode is reactivated.

NOTE!
The last specified operating mode is always set, independent of whether the change was made on a wireless operating switch or on the operating keys of the ventilation unit.

NOTE!
The wireless operating switch only sends signals when a key is pressed and works using the piezo effect (audible clicking). The wall transmitter does not contain batteries and is therefore absolutely maintenance-free

3.7 Air-quality sensor (option)

The air-quality sensor is only active in automatic mode.

3.8 Energy-saving tips

In addition to protecting the basic building structure, improving the air hygiene and enhancing comfort, the ventilation unit helps optimize building efficiency. Therefore, the ventilation unit should not be switched off when no one is there for a long time.

3.8.1 Windows

Of course, windows can also be opened while the ventilation unit is in operation, e.g. for inrush rapid ventilation. For low outside temperatures, the windows should be kept closed to take advantage of the heat recovery. Valuable heating energy is kept in the building, ventilation heat losses are reduced to a minimum, thereby saving on heating costs.

3.8.2 Filters

Dirty filters increase the energy consumption of the ventilation unit. They should therefore be maintained regularly.

4 Malfunctions

Filters and malfunction messages are displayed on the ventilation unit display.

Display	Cause	Status	Measure
F	Filter message	In operation	Filter maintenance, Acknowledge message
Nothing displayed	No power supply or internal malfunction	Off	Switch the power supply On and Off. If not successful, disconnect and have malfunction repaired by fitter / customer service.
E1	Fan malfunction outdoor/supply air	Off	
E2	Fan malfunction Exhaust/outgoing air	Off	
E3	Sensor malfunction Outdoor air	Off	
E4	Sensor malfunction Exhaust air	Off	

4.1 Table of filter and malfunction messages

NOTE!
The error message is displayed by alternately lighting up '***E***' and the respective error code.

ATTENTION WARNING
Repairs must be made by a qualified professional. Only use original spare parts from the manufacturer.

5 Maintenance

Regular maintenance of the ventilation unit is required from a hygienic point of view and for reasons of energy efficiency.

ATTENTION WARNING
During maintenance work, disconnect the ventilation unit from the power supply.

5.1 Filter maintenance

The following maintenance intervals are recommended:

- Change 4 weeks after commissioning (construction dust)
- Check latest after 6 months

  If not very contaminated, tap out the filter and clean with a vacuum cleaner (do not wash), or exchange, if necessary.

- Change at least once a year

NOTE!
The filter maintenance carried out should be logged (see operating instructions attachment).

Filter maintenance is easy. Tools are not necessary. The date of the filter change should be noted.

Reset: After filter maintenance, the filter message is acknowledged and reset by pressing the operating button for 5 s.

Fig. 5.1 Filter change

1 Release the front of the inner faceplate of the bottom side (press in the middle) and remove
2 Pull out filter, clean or change and reinsert
3 Attach front faceplate at top
4 Snap front faceplate in at bottom

NOTE!
The filters are electrostatically charged for bonding dust. Do not wash out with water! Filters will lose their function if they come into contact with water.

NOTE!
Only use original spare filters! Other filter materials will impair the function of the ventilation unit.

5.2 Cleaning the heat exchanger

The plastic heat exchanger of the ventilation unit can be cleaned with clear water. This work should be carried out by a professional.

Fig. 5.2 Removing and inserting the heat exchanger

1 Switch Off the device and remove the inner faceplate.
2 Screw off the bottom section of the inner wall faceplate.
3 Carefully pull the heat exchanger out of the housing, flush with clear, lukewarm water, allow the water to drip off (do not use rinsing agent!) and reinsert horizontally.
4 Fit the inner wall faceplate and switch on the power.

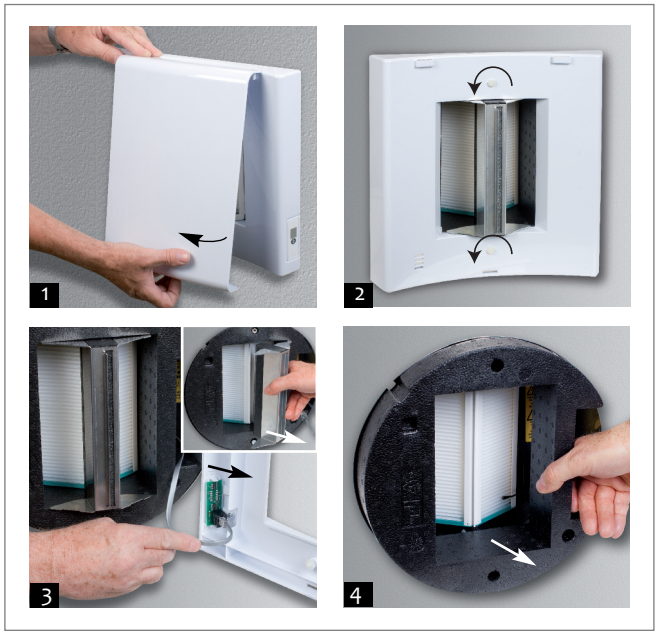

Fig. 5.2.1 Removing and inserting the heat exchanger with extended wall sleeve (option)

5.3 Cleaning the unit

The inner and outer wall faceplates can be cleaned with a damp cloth.
After removing the heat exchanger (see above), the inner housing of the unit can also be cleaned with a damp cloth. This work should be carried out by a professional.

Fig. 5.3 Inside view of ventilation unit (without heat exchanger)

1 air separation strip (centered at rear)	2 outside air/supply air fan 3 exhaust air/outgoing air fan

If there is an air separation strip, it must not be removed. Before inserting the heat exchanger, check its position (see photo above, align air separation strip centered at top and bottom on the line and push all the way to the rear).

ATTENTION WARNING
To clean the ventilation unit, switch off the power!

NOTE!
Never use cleaning agents containing sand, soda, acid or chlorine, since these attack surfaces!

6 Customer service and guarantee

Please refer to the Redring Xpelair Guarantee

You can find the currently applicable version in the download area on our website.

The ventilation unit has been produced with care and has been carefully checked before shipping.
However, should you still require support from our customer service, our authorized Systems Engineering Customer Service in your area will ensure fast repair.

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NOTE!
Please be prepared to tell us the exact **device type, serial number S/N, software version S/V** and **production code FD** for your ventilation unit so that we can process your enquiry, customer service order or complaint correctly. You can find this information on the type plate located next to the display and control panel on the main cover of the ventilation unit

7 Environment and disposal

Be conscious about the environment and help to protect it.

Disposal of packaging
The ventilation unit has been packaged carefully to protect it from damage during transport. The transport packaging consists of recyclable raw materials. Please ensure to dispose of it in an environmentally responsible way.

Disposal of the device

Devices marked with this symbol must not be disposed of as normal residual waste. The device must be collected separately including accessories.
The disposal must be correct and in accordance with the applicable laws and regulations.

Filter maintenance

Please note down any filter maintenance and other work carried out.

All filters in the ventilation system should be checked at least biannually and should be changed at least annually..

Half year	Year
Date: 1 ☐ checked ☐ changed	**Date:** 1 ☐ checked ☐ changed
Date: 2 ☐ checked ☐ changed	**Date:** 2 ☐ checked ☐ changed
Date: 3 ☐ checked ☐ changed	**Date:** 3 ☐ checked ☐ changed
Date: 4 ☐ checked ☐ changed	**Date:** 4 ☐ checked ☐ changed
Date: 5 ☐ checked ☐ changed	**Date:** 5 ☐ checked ☐ changed
Date: 6 ☐ checked ☐ changed	**Date:** 6 ☐ checked ☐ changed
Date: 7 ☐ checked ☐ changed	**Date:** 7 ☐ checked ☐ changed
Date: 8 ☐ checked ☐ changed	**Date:** 8 ☐ checked ☐ changed
Date: 9 ☐ checked ☐ changed	**Date:** 9 ☐ checked ☐ changed
Date: 10 ☐ checked ☐ changed	**Date:** 10 ☐ checked ☐ changed

Half year	Year
Date: 11 ☐ checked ☐ changed	**Date:** 11 ☐ checked ☐ changed
Date: 12 ☐ checked ☐ changed	**Date:** 12 ☐ checked ☐ changed
Date: 13 ☐ checked ☐ changed	**Date:** 13 ☐ checked ☐ changed
Date: 14 ☐ checked ☐ changed	**Date:** 14 ☐ checked ☐ changed
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Date: 20 ☐ checked ☐ changed	**Date:** 20 ☐ checked ☐ changed

INSTALLATION MANUAL For the technician

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1 Important notes

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1.1 Intended use

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Any other use and any use exceeding the intended use is not intended. Any improper use can damage the unit.
The unit must not be altered or modified. The unit is guaranteed safe to use in accordance with the intended use. In this respect, the corresponding user manual and installation manual as well as any other product-specific documents must be observed.

1.2 Safety instructions

Failure to observe the safety instructions can cause hazards to the user as well as to the unit and will lead to loss of any right to claim damages.

1.2.1 Installation

The ventilation unit must be carefully installed by a qualified technician in accordance with the installation manual and in compliance with all instructions and regulations for accident prevention.
The ventilation unit must be installed in a dry, frost free environment with good access and sufficient space for carrying out any necessary maintenance or repair work. Proper discharge of condensate must be ensured in order to avoid any electrical hazards and any damage to the building structure. The ventilation unit must not be installed in places where corrosive or inflammable gases as well as fatty or adhesive aerosols can enter the unit or where air containing harmful pollutants can affect people or put people at risk. Any applicable fire regulations must be observed and complied with. Connecting cooker hoods to the ventilation unit is not permitted.
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Any improper or incorrect installation can cause severe hazards, e.g. severe accidents or fires. Any setting-up and programming not described in the user manual can affect safety and must only be carried out by a qualified technician.

1.2.2 Open Flue installations

Using the ventilation unit together with fuel burning devices (e.g. fireplaces, tiled stoves, gas stoves) is subject to further special requirements. It must be ensured that the ventilation unit cannot cause low pressure in the ventilated room or area during operation of the open flue device. Any applicable national as well as regional guidelines and regulations must be observed.

1.2.3 Start-up, use, interruption

After completed installation, a functional test must be made to ensure that the unit works correctly. The user must read the user manual carefully in order to acquaint himself/herself with the procedures for use and maintenance.
The ventilation unit contains rotating fans. Putting your hands or fingers or any other objects into the unit, into air ducts or into air-intake or air-outlet elements can lead to injuries and can damage the unit. **It must be ensured that children and people with limited physical or mental capabilities are not put at risk.**
In case of defects, faults or abnormal conditions (e.g. flooding of the unit due to a natural disaster) the unit must be stopped. Disconnect the unit from the power supply and consult a qualified technician.

1.2.4 Maintenance, repair, spare parts

In order to ensure continuous safe operation, the ventilation unit must be maintained regularly. Any maintenance and repair work other than cleaning or changing filters must be carried out by a qualified technician. Before opening the unit, ensure that all associated circuits are isolated and are secured against unintentional switching-on. Use only original spare parts from the manufacturer.

1.2.5 Alterations and modifications

Any unauthorised alteration or modification of the unit or of the installed system as a whole is not permitted. Structural changes can impact the safety of use consult a qualified technician.

2 Device description

2.1 Purpose
The ventilation unit is designed for the controlled venting and exhaust of frost-free living spaces. It is installed in an outer wall. The ventilation unit is not meant for drying out building construction.

2.2 Scope of delivery
The decentralised ventilation unit is delivered complete with wall sleeve for walls up to 320mm thickness.

A separate extract kit is available for walls up to 390mm thickness.

2.3 Functional principle
The ventilation unit is equipped with two energy-saving and quiet-running fans with DC technology and ensures that the air in living spaces is exchanged in a controlled manner.

Used room air is exhausted and conducted out as outgoing air. At the same time, fresh outdoor air is brought into the room filtered as incoming/supply air.

The two air flows, separated from each other in the ventilation unit, are conducted via a cross counterflow heat exchanger. This recovers the heat contained in the exhaust air and heats the supply air. This way, most of the heat energy in the room is retained.

2.4 Air flows

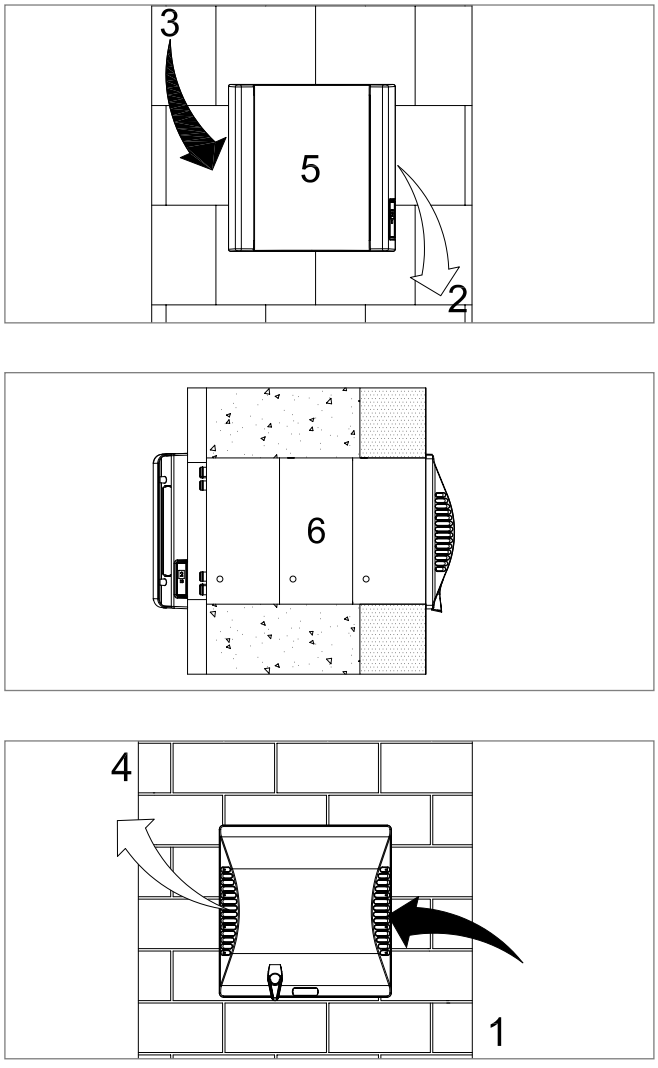


Fig. 2.2 Air flows

1 outdoor air (AUL)	5 inner wall faceplate
2 supply air (ZUL)	6 ventilation unit
3 exhaust air (ABL)	7 outer wall faceplate
4 outgoing air (FOL)	

2.5 Structure

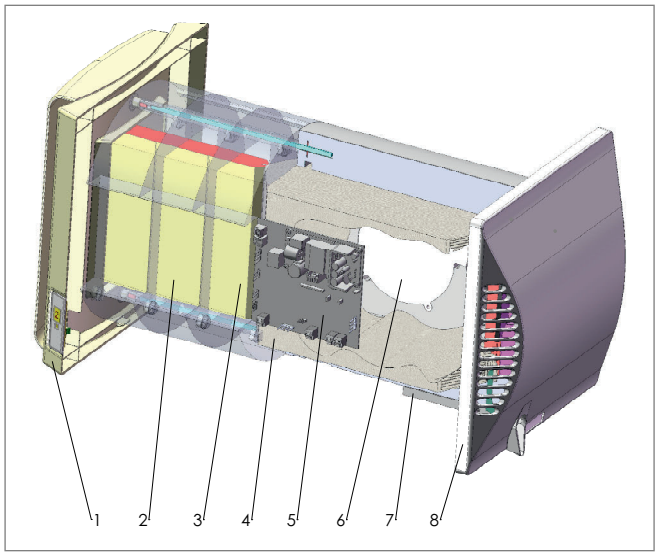


Fig. 2.3 Basic structure

1 inner wall faceplate with control panel and filters
2 extension rings
3 air separation strip
4 heat exchanger
5 main board
6 fan
7 housing
8 air inlet/outlet with screen with condensate drain

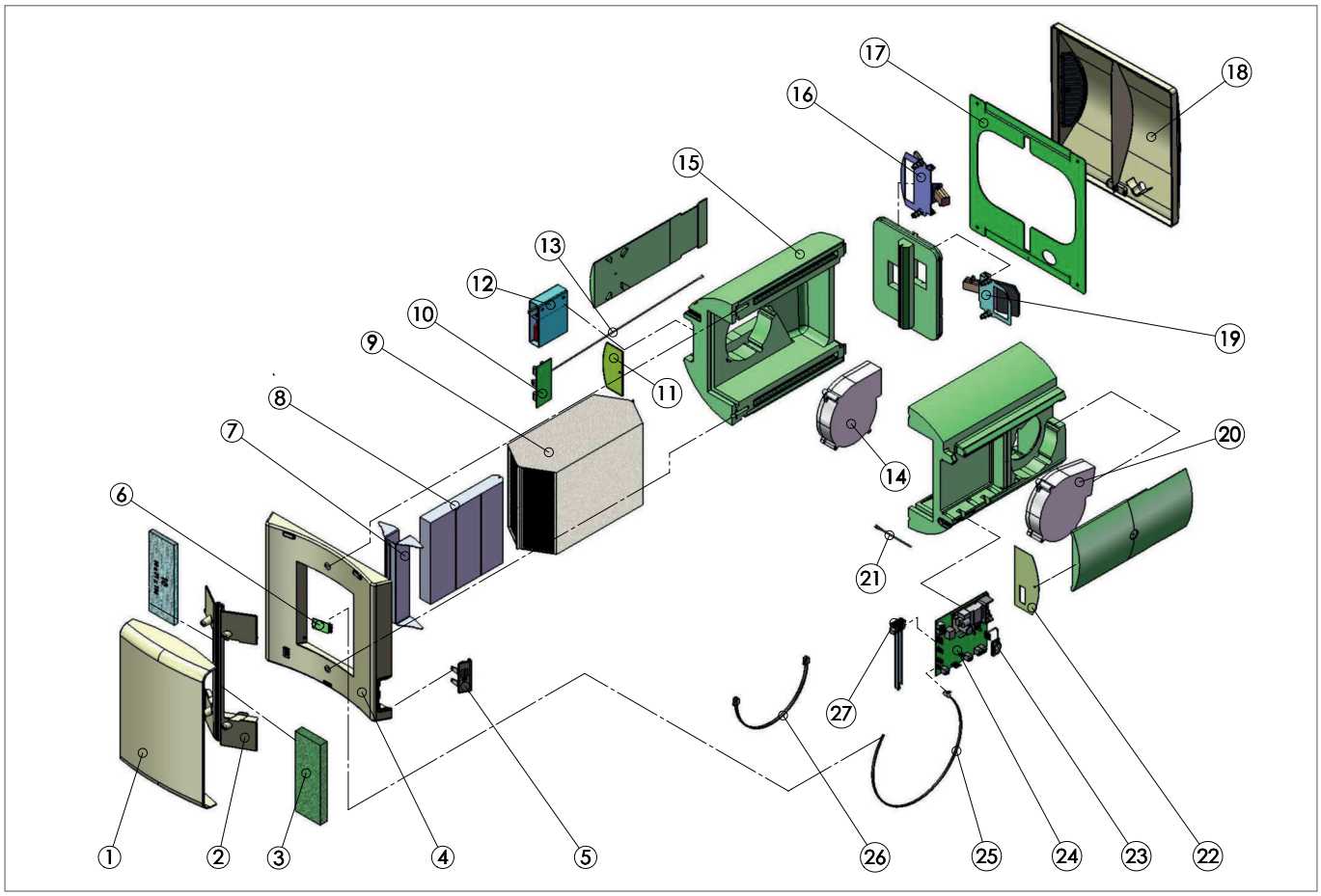


Fig. 2.4 Components in detail

1 Inner faceplate, top part
2 Filter carrier
3 Supply air filter F7, exhaust air filter G4
4 Inner faceplate, bottom part
5 Control panel with display board PCB2
6 Air-quality sensor (optional)
7 Air separation strip end rail
8 Air separation strip
9 Heat exchanger
10 Terminal board PCB3
11 Terminal board cover
12 Heating component
13 Outdoor air sensor 1
14 Outdoor/supply air ventilator VM1
15 Housing
16 Shutter, outdoor air
17 Sealing sheet
18 Outer faceplate
19 Outgoing air shutter
20 Exhaust/outgoing air ventilator VM2
21 Supply air sensor 2
22 Main board cover
23 Wireless receiver (optional)
24 Main board PCB1
25 Air-quality sensor cable
26 Display-board cable
27 Power-supply terminal

3 Technical data

3.1 Specification

The following technical data applies to the ventilation unit versions.

	MURO XHRM
Air volume flow rates Stage 1/2/3/4	17 / 27 / 45 / 55 m³/h
Air volume flow rates min.	10 m³/h
Sound pressure level At distance of 1 m	15 / 25 / 33 / 39 dB(A)
Heat recovery efficieny	up to 90%
Filter class Supply/exhaust air filter	F7 / G4
Voltage supply	1~/N/PE 230V 50Hz
Power consumption Stage 1/2/3/4	4,0 / 10 / 17 / 25 W
Power consumption max.	25 W
Current consumption max.	1,9 A
Type of protection according to VDE	IP X4
Protection class	I
Application area Outdoor air temperature	-20 bis +40 °C
Weight	3,75 kg

3.1 Technical data

Wall faceplate material: Plastic ABS (fire class B1)

Wall faceplate color: alpine white (RAL 9010)

Dimensions: See dimension diagrams

3.2 Equipment and options

Equipment	XHRMH
Integrated operating element	included
Air-quality sensor	not possible option
Wireless operating switch	not possible option

Fig. 3.2 Equipment

3.3 Operating data

Status	Vol.-flow [m³/h]	Con-sumption [W]	Fanr VM1 AUL	Fan VM2 FOL	Shutter AUL	Shutter FOL
Without voltage	0	0	off	off	open	open
Off	0	0	off	off	closed	closed
Auto	10-45	4-17	on	on	open	open
Speed 1	15	4,0	on	on	open	open
Speed 2	30	10	on	on	open	open
Speed 3	45	17	on	on	open	open
Speed 4	55	25	on	on	open	open
Supply air	30	7	on	off	open	closed
Exhaust air	30	7	off	on	closed	open
Deicing mode	factory set		off	on	closed	open

Table 3.3 Operating data

NOTE!
It is possible to disable the OFF position.

3.4 Dimension drawing

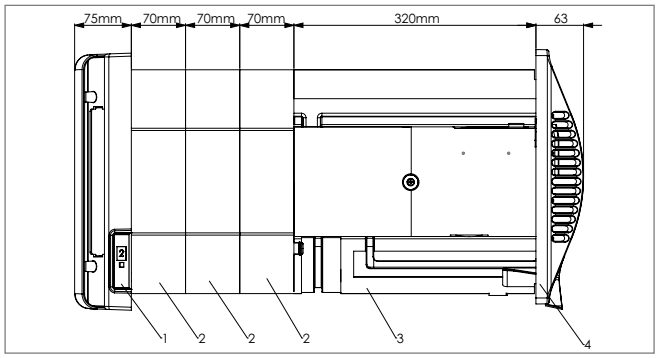


Fig. 3.1 Ventilation unit dimensions

1 inner wall faceplate with control panel and filters	3 ventilation unit
2 extension ring	4 Sealing Sheet

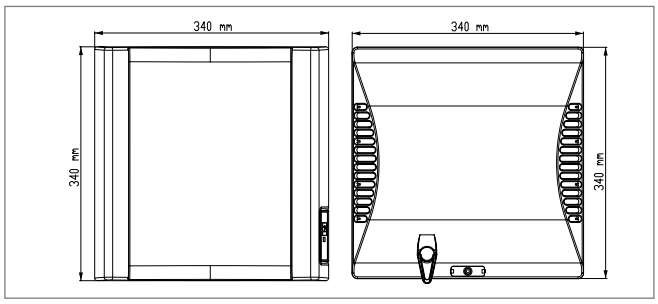


Fig. 3.2 Dimensions of inside faceplate and outside faceplate

NOTE!
The installation dimensions of the ventilation unit (cross section and max. length) depend on the used outer wall sleeve. The length of the ventilation unit is adapted to the wall sleeve using extension ring.

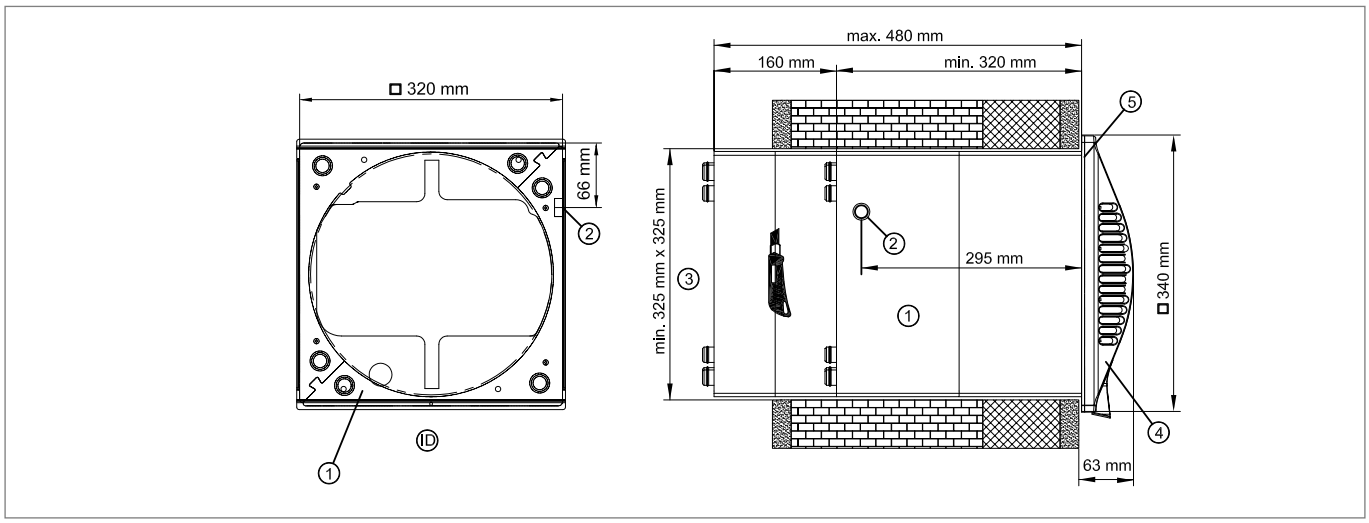


Fig. 3.3 Installation dimensions, square wall sleeve

1 wall sleeve	2 cable feedthrough	3 wall breakthrough	4 outer faceplate	ID view from room side

4 Installation

4.1 Requirements at the installation site

The ventilation unit is installed in an outer wall. Do not install the unit behind facades.
The ventilation unit may be used in the protection area 2 for spray-water-protected devices. Do not use the ventilation unit in explosive areas!

4.1.1 Selection of installation site

Suitable installation sites are outer walls in all living rooms and bedrooms, as well as kitchens, bathrooms, utility rooms and storage rooms. The room air temperature should not fall below +10°C.
The outdoor air should be cool, dry and free of odours, if possible.

4.1.2 Arrangement in the room

Place the ventilation unit as high as possible in the room. The used warm air collects in the upper area and can be effectively extracted away this way.
Make sure that no one is in the direct path of the air. In living spaces, do not place it directly above a sitting area.

NOTE!
The fascia must not be obstructed, covered or sealed on either side (e.g. by curtains or furniture).

4.1.3 Installation distance

For the unit to work perfectly, a minimum distance of 10 cm on each side and to the ceiling must be complied with on the room side.

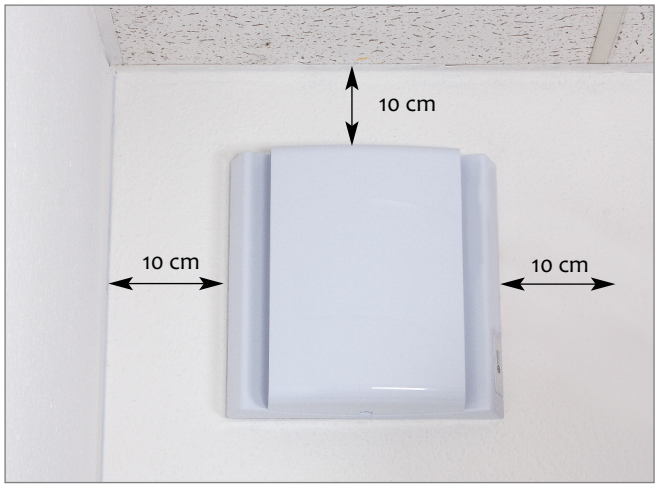


Fig. 4.1 Minimum distance on sides and to ceiling in the room

NOTE!
In front of the device, keep 0.5 m of free space for maintenance and make sure there is free access for maintenance work.

4.2 Installation information

4.2.1 Condensate drain

The condensate is drained via the outer wall faceplate. It is not necessary to install a condensate line.

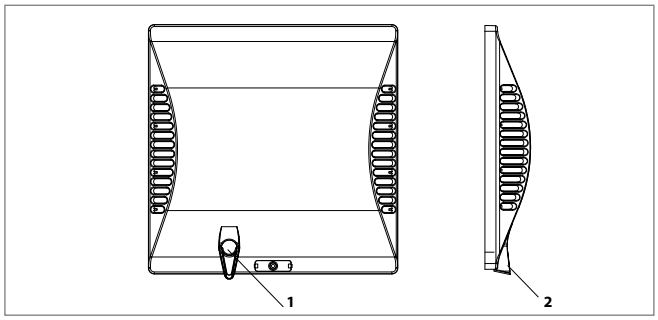


Fig. 4.2 Outer wall faceplate with condensate drain

1 condensate drain	2 drip edge

NOTE!
For a reliable condensate drain, the ventilation unit must be installed horizontally in the outer wall. Before inserting the device, check the horizontal position of the wall sleeve!

4.2.2 Wall breakthrough and wall sleeve

The ventilation unit is to be installed horizontally in the outer wall. So that the wall sleeve can be aligned horizontally during installation, the wall breakthrough should be somewhat larger than the outer dimension of the wall sleeve.
Recommendation for the cross section of the wall breakthrough for square wall sleeves: min.325x325 mm.
The wall sleeve and outside wall plate must always be the outside wall. Any adaptation must be done on the inside.

4.2.3 Adapting the unit length

When adapting the wall sleeve to the thickness of the outer wall, take the inner and outer wall plaster into account. The installed length of the ventilation unit is variable and the length of the installed wall sleeve is adaptable.

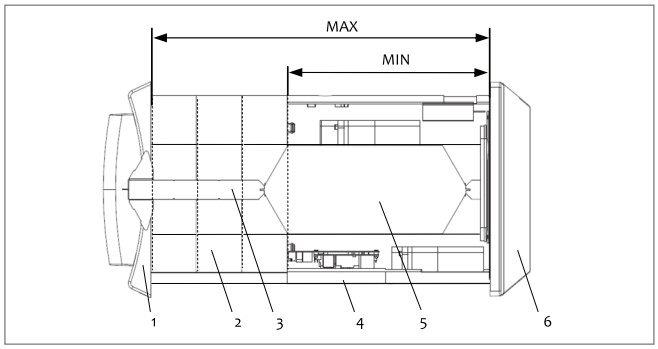


Fig. 4.3 Length adaptation of the ventilation unit

1 inner wall faceplate	4 heat exchanger (movable)
2 extension rings (length adaptation!)	5 air separation strip (length adaptation!)
3 ventilation unit	6 outer wall faceplate

4.3 Installation of the ventilation unit

4.3.1 Inserting the device into the wall sleeve

A prerequisite for this is the correct installation of the outside-wall sleeve (see wall sleeve installation instructions).

The wall sleeve must not be deformed (for example, due to swollen foam).

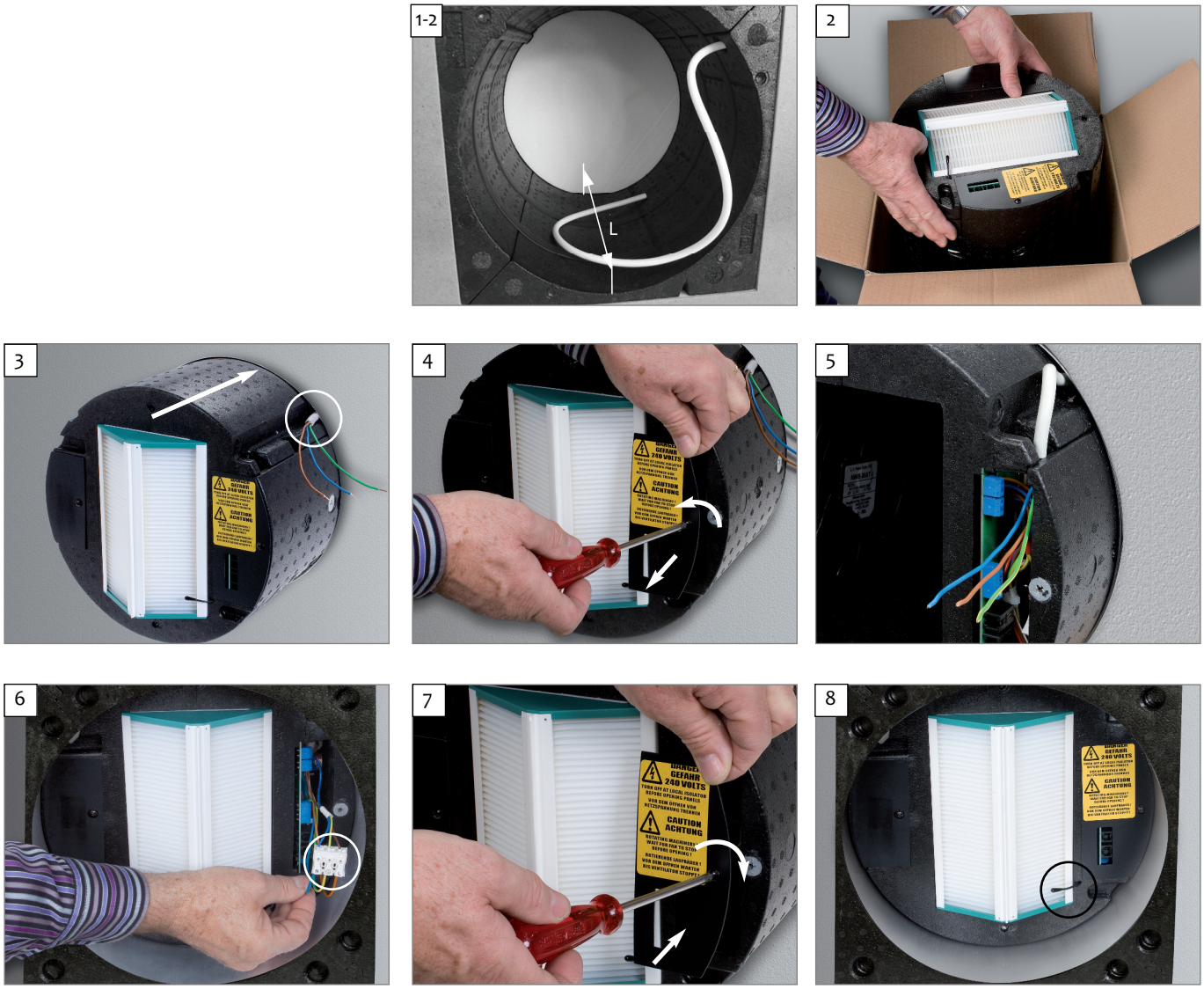


Figure 4.4 Inserting the device into the wall sleeve

1-2 Pre-mounted square wall sleeve
(each figure from the inside)

Measuring the insertion length of the installed wall sleeve (dimension L)

2 Remove the ventilation unit from its packaging.

3 Insert the device into the wall sleeve, fitting the power cable into the cable duct.

4 Open the cover of the right-hand board shaft.

5 Guide the connecting cable into the board shaft.

6 Insert the device into the wall sleeve up to the outer stop (outer edge of the device and the wall sleeve must be aligned) and connect the power-supply cable (3-pole terminal in the board shaft).

7 Close the cover of the board shaft.

8 Ventilation unit has been inserted into the wall sleeve (with no in stalled device extension); check if the supply air sensor is positioned correctly before proceeding to the next installation step.

4.3.2 Adjusting the insertion length of the device

If dimension L of the installed insertion length of the wall sleeve is >320 mm, the length of the ventilation unit must be adjusted by extension ring(s) and a separating strip.

The extension ring and the separating strip are to be shortened as needed on site.

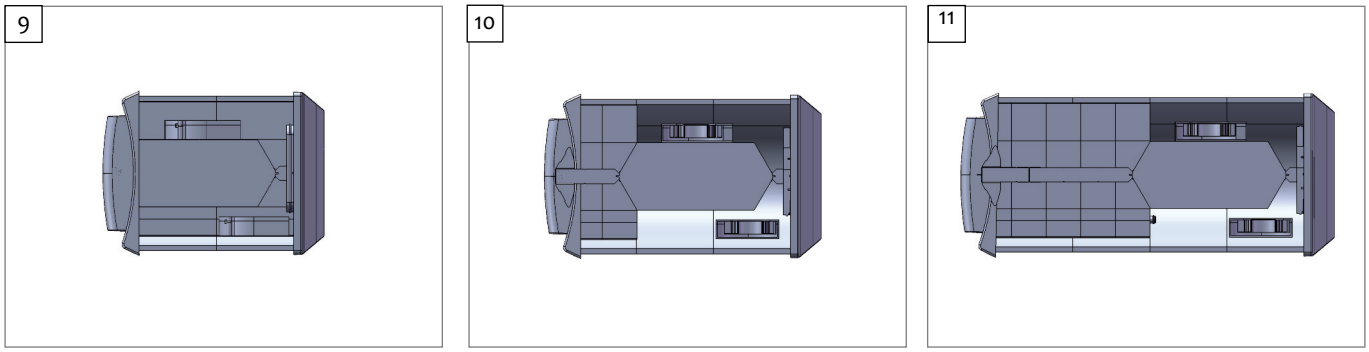


Figure 4.5 Variants of the length adjustment

9 Length of the installed wall sleeve
L = 320 mm:

No extension of the device necessary, proceed with figure 4.9
(mounting of the inner faceplate)

10 Length of the installed wall sleeve
L = 320 ~ 530 mm:

Adjusting the length of the device using extension rings, threaded rods and air separation strips (to be shortened on site as needed)

11 Length of the installed wall sleeve
L > 480 mm (square wall sleeves only):

Use of additional extension rings and threa ded rods as well as a second air separation strip with a connecting rail (optional)

Figure 4.6 Mounting the extension ring(s)

12 Connect the connecting cable for the display board of the inner wall faceplate (6-wire cable with RJ12-plugs).

13 Adjust the length of the device by trimming the extension ring (caution: do not sever the connecting nipple).

Length X extension ring(s):
X = L – 320 mm
L = insertion length of the wall sleeve

14 Insert the extension ring(s) into the wall sleeve

4.3.2 Adjusting the insertion length of the device

Figure 4.7 Mounting the threaded rods

15 Adjust the length of the threaded rods.

Length X of the threaded rods:
X = L – 320 mm
L = insertion length of the wall sleeve

16 Insert the threaded rods (above and below the heat exchanger).

17 Screw in the threaded rods until the hexagonal sleeve is aligned with the extension ring, then remove the plastic screw (only purpose of this is screwing in the threaded rod).

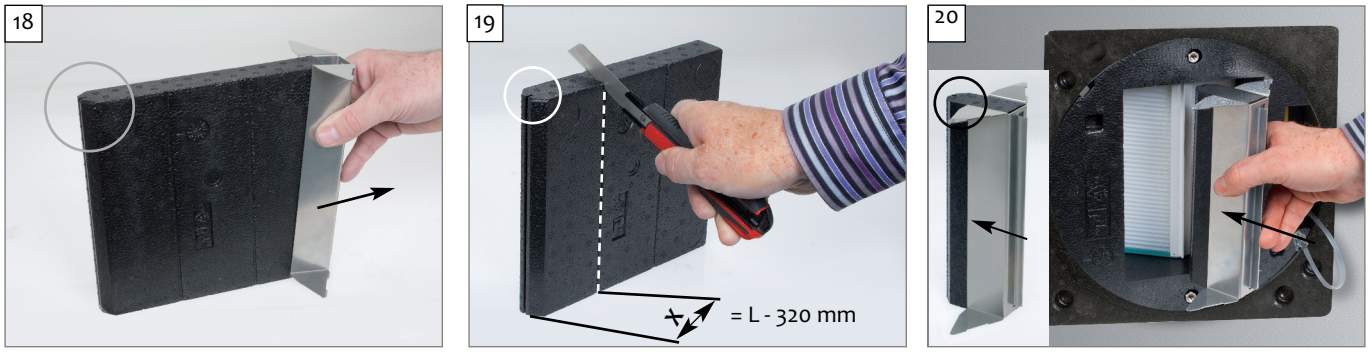


Figure 4.8 Mounting the air separation strip

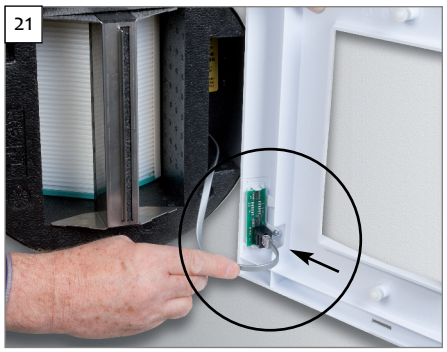
18 Pull the end rail off the air separation strip.

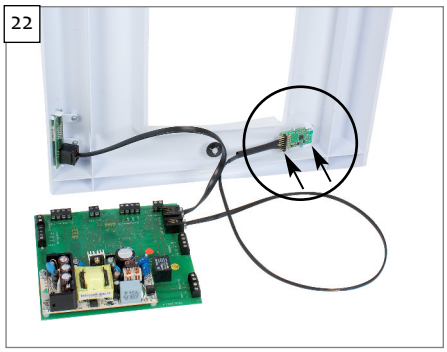
19 Adjust the length of the air separation strip (Caution: do not sever the slot!).

Length X of the air separation strip:
X = L – 320 mm
L = insertion length of the wall sleeve

20 Put the end rail onto the trimmed side of the separation strip, insert the separation strip into the extension ring and attach the slot of the separation strip to the spring of the heat exchanger

4.3.3 Mounting the inner wall faceplate





21 Connect the connecting cable for the main board to the display board (6-wire cable with RJ12 plugs)

22 Click the air-quality sensor (optional) in place at the inner wall faceplate and connect the cable to the main board (RJ11 plug, 4-wire cable)

23 Attach the bottom part of the inner wall faceplate to the ventilation unit using plastic screws.

24 Attach the front cover of the inner wall faceplate to the top of the bottom part.

25 Let the front cover click into place below.

26 Mounted inner wall faceplate

4.4 Electric installation

4.4.1 Electrical connection for ventilation unit

The ventilation unit is designed for a minimal amount of installation effort. Only one power supply is required for the unit. The retrofitable options, air-quality sensor and wireless remote control, are connected inside the device and require no further electrical installation work.

ATTENTION WARNING

Electrical connection work may only be carried out by a qualified electrician! Only work on the unit when it is disconnected from the power.

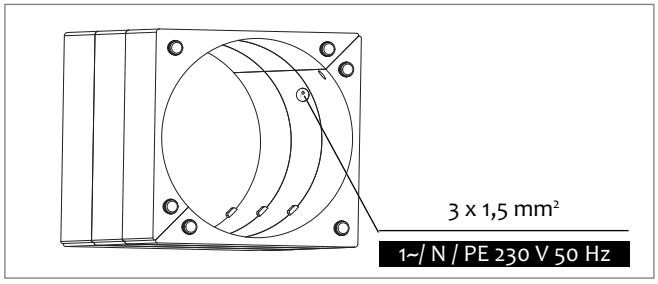


Fig. 4.4 Wiring diagram for ventilation unit

NOTE!

On the installation side, a two-pole isolator must be provided with a contact opening width of at least 3 mm.

4.4.2 Electrical wiring diagram

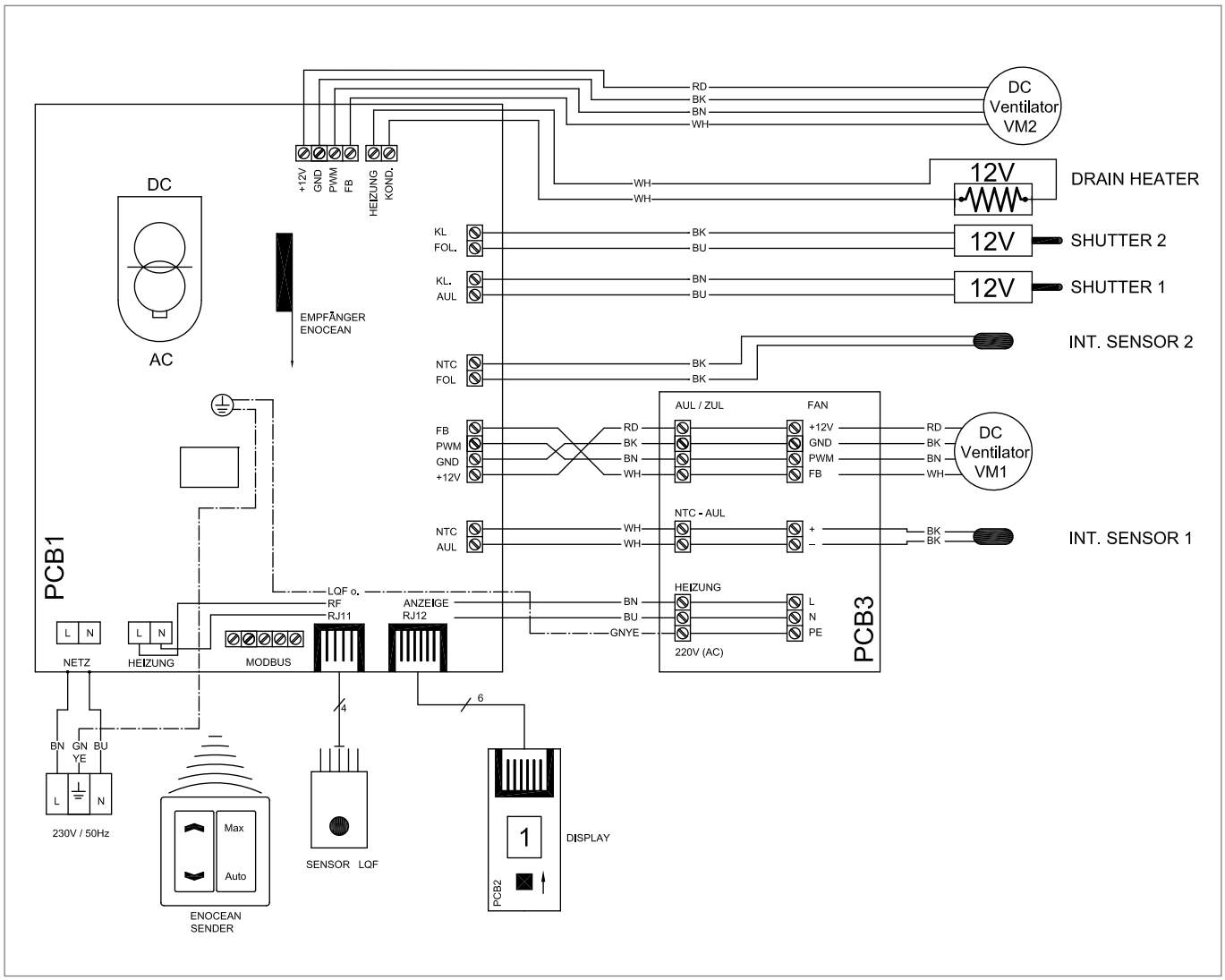


Fig. 4.5 Wiring diagram, internal wiring

(option, DL 50 WE only)

1	230V/50Hz - power supply	5	VM1 - fan, outdoor/supply air	9	Int.Sensor 1 - sensor, outdoor air
2	PCB1 – main board	6	VM2 - fan, exhaust/outgoing air	10	Int.Sensor 2 - sensor, outgoing air
3	PCB2 – display board	7	Shutter 1 - shutter, outdoor air	11	Drain heater - condensate heater
4	PCB3 - internal terminal board	8	Shutter 2 - shutter, outgoing air		
				12	Sensor LQF - sensor, air quality
				13	Enocean - wireless receiver
				14	Enocean - wireless transmitter

4.4.3 Connecting the display and push button

The display and push button is integrated in the bottom section of the inner wall faceplate and must be connected to the main board during installation. The display board (PCB2) is electrically connected to the RJ12 slot (display) of the main board (PCB1) with the connection cable.

Fig. 4.6 Display connection

4.4.4 Installation of the air-quality sensor
(option)

The ventilation unit can be optionally equipped with an air- quality sensor.
The sensor is fitted in the bottom section of the inner wall faceplate on the exhaust air side in the bottom area. To do this, the inner wall faceplate must be removed, clipped in the inner section.
The sensor is electrically connected to the RJ11 slot (LQF) of the main board (PCB1) using the connection cable.

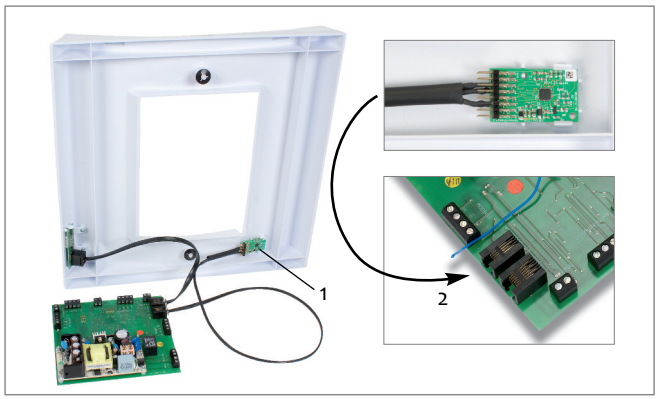


Fig. 4.7 Installation of the air-quality sensor

1 plug in sensor board on inner wall faceplate	2 plug connection cable to slot RJ11/LQF of main board (PCB1)

NOTE!
The installed air-quality sensor is automatically detected by the control after connecting the power.

4.4.5 Installation of wireless receiver
for wireless operating switch (option)

The unit can optionally be operated with a wireless operating switch. The wireless receiver is plugged onto the main board (PCB1) at the Enocean slot.

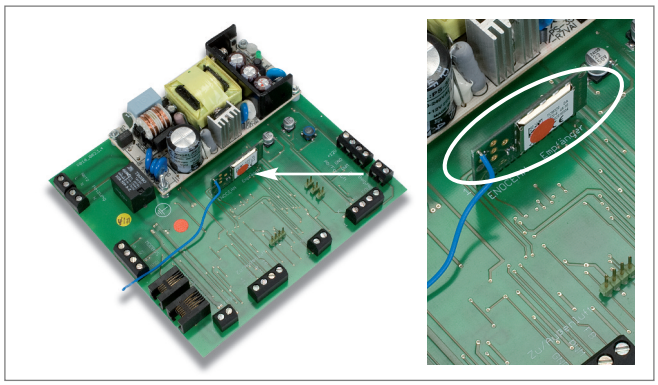


Fig. 4.8 Installation of wireless receiver

NOTE!
Before installation, disconnect the unit from the power! The installed wireless receiver is detected automatically after the power is connected.

4.4.6 Installation of the wireless operating switch
The wireless operating switch can be screwed or glued onto a suitable surface. The wall transmitter is delivered with a frame.

4.4.7 Registering/de-registering wireless operating switches
(option)
Up to 3 wireless operating switches can be registered one ventilation unit.
Registering wireless transmitter (learning)

1. Keep the operating button on the ventilation unit pressed for 30 s until the ***T-1-2-3*** is alternately displayed.
2. Press the operating button when ***1, 2*** or ***3*** lights up on the display, thereby selecting the desired channel (alternating display of ***'T'*** and the selected channel).
3. Press any key of the wireless transmitter to be registered within 30 s (if display is no longer flashing, the transmitter was detected).
   Repeat steps for other wireless transmitters.

De-registering wireless transmitter (unlearning/deleting)

1. Keep the operating key pressed for 30 s: The alternating display ***T-1-2-3*** appears.
2. Select the channel to be deleted: Press the operating key when ***1, 2*** or ***3*** lights up on the display (alternating display of ***'T'*** and selected channel).
3. If nothing is entered, the respective wireless transmitter is deleted from the selected channel. Repeat steps for other channels.

NOTE!
A wireless transmitter can be registered on several units and can then control these at the same time.

5 Operation

5.1 Commissioning

After completing and checking the professional installation, the ventilation unit can be put into operation.

- Switch On mains voltage
- Switch On the device
- Check operation

It is not necessary to calibrate or adjust the ventilation unit.

NOTE!

To prevent contamination and damage to the ventilation unit, only put the unit into operation once the room is ready to be occupied and all construction/remodeling measures are completely finished.

ATTENTION WARNING

If there is any recognisable damage, the ventilation unit must not be put into operation. After completing installation, there must be no safety, health or environmental risks. The manufacturer of the ventilation unit will accept no liability for this.

5.2 Display and control panel

The ventilation unit can be operated without additional control components. It is operated on its display and control panel.

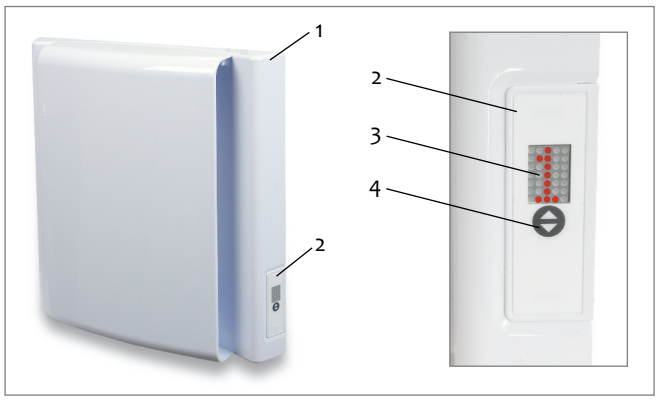


Fig. 5.1 Display and control panel

1 inner wall faceplate
2 display and control
3 segment display
4 operating button

5.3 Operating modes

The operating mode is set with the operating key of the ventilation unit. Each time it is pressed, the operating mode changes in the shown sequence). The display provides information about the current operating status. The following operating modes can be selected:

Display	Operating mode	Function
None	No power	Fans off (shutters open)
0	OFF*	Fans off (shutters closed)
A	AUTOMATIC	Without air-quality sensor: Minimal operation 10 m³/h with air-quality sensor: Automatic, infinitely variable air volume control from 10~45 m³/h (shutters open)
1	SPEED 1	Reduced ventilation 15 m³/h (shutters open)
2	SPEED 2	Nominal ventilation 30 m³/h (shutters open)
3	SPEED 3	Nominal ventilation 45 m³/h (shutters open)
4	SPEED 4	Intensive ventilation 55 m³/h (shutters open)
←|	SUPPLY AIR	Supply air mode only 30 m³/h, No heat recovery (outgoing air shutter closed)
|→	EXHAUST AIR	Exhaust air mode only 30 m³/h, No heat recovery (outdoor air shutter closed)

Table 5.1 Operating modes

5.3.1 Automatic mode

In automatic mode, the ventilation unit works in minimal mode at 10 m³/h.
If an air-quality sensor is installed, the volume flow rate in auto matic mode is regulated infinitely between 10 and 45 m³/h depending on the exhaust air quality (measurement of CO2, humidity and mixed gases).

5.3.2 Supply air mode

Supply air mode only for utilising cool outdoor air. The exhaust extract air fan VM2 is switched off (no heat recovery) and extract shutter is closed.

5.3.3 Exhaust air mode

Exhaust air mode only for dehumidification. The supply air fan VM1 is switched off (no heat recovery) and intake shutter is closed.

ATTENTION WARNING

The simultaneous operation of the ventilation unit with fireplaces/heating systems (e.g. chimneys, tiled stoves, gas furnaces) is subject to special requirements. Make sure that when the fireplace/heating system is in operation in the residence that no negative pressure is generated by the ventilation unit. Country-specific and regionally valid directives and regulations must be complied with.

5.4 Special operating functions

5.4.1 Switching on again after power failure
After a power failure, the ventilation unit automatically starts in speed 1 (reduced ventilation to protect the basic building structure).

5.4.2 Switching off the display
If the illuminated display of the ventilation unit is disturbing (e.g. in the bedroom), it can be switched off or be changed from a constant display to an on-demand display. Then the display will just go on briefly (10 s) when the operating mode is changed and then it goes OFF again.

Switching On the display – need-based display:
- Press the operating key for 10 s (until **S** appears on display)

Switching On the display – constant display:
- Press the operating key for 10 s (**S** appears on display)

NOTE!
Filter and error messages are displayed long-term despite inactive display.

5.4.3 Locking OFF switch
Switching OFF the ventilation unit can be disabled.

Disabling switching OFF (unit OFF not possible):
- Keep the operating key pressed for 20 s (until ***'O'*** is displayed)

Activate switching OFF:
- Keep the operating key pressed for 20 s (until ***'O'*** is displayed)

5.5 Internal safety functions

5.5.1 Automatic de-icing
To prevent the heat exchanger from icing up at low outdoor air temperatures in the winter, the ventilation unit is equipped with an automatic de-icing function.
The de-icing function is activated when the incoming air temperature in the ventilation unit falls below + 12°C.
When the automatic de-icing function is active, the outdoor air/supply air fan is switched off for 60 minutes. As a result, only warm exhaust air flows to the heat exchanger and de-ices it. The condensate is drained to the outdoors via the outer wall faceplate.
The preheater is designed to prevent the heat exchanger from frosting. The preheater (only available on WHRM XHRM version) activates when the outside temperature drops to -2°C. It pulses to maintain 0°C at the heat exchanger. When the outside temperature drops below 10°C, the heater is fully on.
As the temperature rises to above -8°C, the preheater returns to pulse mode. It switches off automatically at an outside temperature of 0°C.

5.5.2 Condensate heating
The condensate drain toward the outer wall faceplate is equipped with a condensate heater.
If the outdoor air temperature drops below + 1°C, the heater is activated and protects the condensate drain from freezing.
In addition, the formation of icicles on the outer wall faceplate is avoided. If the outdoor air temperature increases to above + 3°C, the condensate heater switches Off.

5.6 Filter signal
The filter signal is time-controlled and gives a filter maintenance reminder by displaying 'F' after the interval time has elapsed (see "Maintenance" chapter). The interval time is 6 months and cannot be changed.
Reset: After filter maintenance, the message is acknowledged and reset by pressing the operating key for 5 s.

NOTE!
In the event of a power failure or if the ventilation unit is switched Off, the filter time is not stopped/reset.

6 Malfunctions

Filters and error messages are displayed on the display and control panel of the ventilation unit.

Display	Cause	Status	Measure
F	Filter signal	In operation	Filter maintenance, acknowledge signal
No Display	No power or malfunction	Off	Check for power or board malfunction, check internal wiring, change main board PCB1
No Display	Malfunction Display board	In operation	Check internal wiring change display board PCB2
E1	Malfunction Fan outdoor/supply air	Off	VM1: Connection cable and Check/change motor
E2	Malfunction Fan exhaust/outgoing air	Off	VM2: Connection cable and Check/change motor
E3	Malfunction Outdoor air sensor	Off	Check/change int. sensor 1
E4	Malfunction outgoing air sensor	Off	Check/change int. sensor 2 Table

6.1 Malfunction messages

NOTE!
The error message is displayed by alternately lighting up ***'E'*** and the respective error code.

ATTENTION WARNING
Repairs must be made by a qualified professional. Only use original spare parts from the manufacturer.

7 Customer service and guarantee

Please refer to the Redring Xpelair Guarantee

You can find the currently applicable version in the download area on our website.

The ventilation unit has been produced with care and carefully checked before shipping.
However, should you still require support from our customer service, our authorized Systems Engineering Customer Service in your area will ensure fast repair.

Redring Xpelair Group Limited
Newcombe House, Newcombe Way
Orton Southgate
Peterborough, Cambridgeshire
PE2 6SE, United Kingdom
Telephone: +44 (0) 1733 456789
Fax: +44 (0) 1733 456727
Email: rxsalesoffice@redringxpelair.com
Internet: www.redringxpelair.com

NOTE!
Please be prepared to tell us the exact **device type, serial number S/N, software version S/V** and **production code FD** for your ventilation unit so that we can process your enquiry, customer service order or complaint correctly. You can find this information on the rating label located next to the display and control panel on the main cover of the ventilation unit.

Fig. 7.1 Rating label

GUARANTEE
Terms and Conditions for UK & ROI (outside UK & ROI contact your local distributor)
Redring Xpelair Group guarantee this product against faulty workmanship and material defects for a period of 5 years from the date of purchase subject to regular servicing by Redring Xpelair, or their approved agents. In the event of a product breakdown during the guarantee period, initially contact your installer. The guarantee is valid provided:

a) The product has been installed in a residential or light commercial environment.
b) The product has been correctly installed and commissioned in accordance with the instructions and is used on the supply circuit or voltage printed on the rating label.
c) The product has been used in accordance with these instructions and has not been tampered with or otherwise been modified, subjected to misuse, neglect or accident.
d) The product has been regularly maintained in accordance with these instructions and the airways are unobstructed.
e) The product has not been taken apart, modified or repaired except by a person authorised by Redring Xpelair.
f) Evidence of the date of purchase in the form of an invoice or receipt will be required in order to qualify under the terms of this guarantee.
g) For service work to be undertaken free of charge, the work must only be undertaken by Redring Xpelair or their approved agents.
h) Service under guarantee has no effect on the expiry date. The guarantee on any exchanged parts or product ends when the original guarantee period ends.
i) In the event of a product being returned to Redring-Xpelair and not found to be faulty, the product will be available for collection from the relevant premises for one month and if not collected will be disposed of or delivered by Redring Xpelair a delivery charge made.

EXCLUSIONS
This guarantee does not apply to the repair or replacement of Filters, Accessories, Isolating switches, Electrical cable, Fuses and/or Circuit breakers or annual servicing. This Guarantee covers products supplied by Redring Xpelair only and does not cover other products and components used to create a system from elsewhere. The responsibility for the suitability of the complete system for the specic application remains the responsibility of the original specification engineer.
This guarantee does not cover damage or defects arising from poor or incorrect installation, improper use or lack of maintenance. It is the responsibilty of the installer to check that the installation parameters meet the requirements of the product, and any relevant regulations.
Site visits to a fault, which are subsequently identied as being an installation fault, a chargeable. It is important that the routine checks are completed before requesting a call out, as many issues can be simply diagnosed and resolved.
In the event of a site visit, we will endeavour to achieve the most timely response possible but while we indicate an average response time, this should not be taken as a guarantee. The guarantee applies to a repair or replacement (at Redring Xpelair's discretion) of the product subject to the conditions above, and does not cover compensation for the loss of the product or consequential loss of any kind.
This guarantee does not aect your statutory rights.

8 Environment and disposal

Be conscious about the environment and help to protect it.

Disposal of packaging
The ventilation unit has been packaged carefully to protect it from damage during transport. The transport packaging consists of recyclable raw materials. Please ensure to dispose of it in an environmentally responsible way.

Disposal of the device

Devices marked with this symbol must not be disposed of as normal residual waste. The device must be collected separately including accessories
The disposal must be correct and in accordance with the applicable laws and regulations.

Filter maintenance

Please note down any filter maintenance and other work carried out.

All filters in the ventilation system should be checked at least biannually and should be changed at least annually..

Half year	Year
Date: 1 ☐ checked ☐ changed	**Date:** 1 ☐ checked ☐ changed
Date: 2 ☐ checked ☐ changed	**Date:** 2 ☐ checked ☐ changed
Date: 3 ☐ checked ☐ changed	**Date:** 3 ☐ checked ☐ changed
Date: 4 ☐ checked ☐ changed	**Date:** 4 ☐ checked ☐ changed
Date: 5 ☐ checked ☐ changed	**Date:** 5 ☐ checked ☐ changed
Date: 6 ☐ checked ☐ changed	**Date:** 6 ☐ checked ☐ changed
Date: 7 ☐ checked ☐ changed	**Date:** 7 ☐ checked ☐ changed
Date: 8 ☐ checked ☐ changed	**Date:** 8 ☐ checked ☐ changed
Date: 9 ☐ checked ☐ changed	**Date:** 9 ☐ checked ☐ changed
Date: 10 ☐ checked ☐ changed	**Date:** 10 ☐ checked ☐ changed

Half year	Year
Date: 11 ☐ checked ☐ changed	**Date:** 11 ☐ checked ☐ changed
Date: 12 ☐ checked ☐ changed	**Date:** 12 ☐ checked ☐ changed
Date: 13 ☐ checked ☐ changed	**Date:** 13 ☐ checked ☐ changed
Date: 14 ☐ checked ☐ changed	**Date:** 14 ☐ checked ☐ changed
Date: 15 ☐ checked ☐ changed	**Date:** 15 ☐ checked ☐ changed
Date: 16 ☐ checked ☐ changed	**Date:** 16 ☐ checked ☐ changed
Date: 17 ☐ checked ☐ changed	**Date:** 17 ☐ checked ☐ changed
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Date: 20 ☐ checked ☐ changed	**Date:** 20 ☐ checked ☐ changed

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